

A REVIEW OF THE GENUS PERIPLOCA WITH
DESCRIPTIONS OF NINE NEW SPECIES

(Lepidoptera: Gelechioidea)

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Braun proposed *Periploca* for the new species *purpuriella* in 1919. An examination of the genitalia of the type of *Elachista concolorella* Chambers, 1875, has revealed that *concolorella* and *purpuriella* are conspecific. Furthermore, *Stigmatophora ceanothiella* Cosens and *Laverna* (?) *gleditschiaeella* Chambers have proved to be congeneric with *P. concolorella*, not *Stigmatophora heydeniella*, the type of *Stigmatophora*. This brings the number of described species of *Periploca* to three; in addition nine new species were found among the undetermined specimens in various collections.

I wish to thank the following persons for allowing me to study the specimens under their care (the abbreviations following the name of the person or institution are used to indicate the location of the material): Dr. Annette F. Braun (AFB); Dr. C. D. MacNiell, California Academy of Sciences (CAS); Mr. G. T. Okumura, California Department of Agriculture, Sacramento (CDA); Mr. M. O. Glenn (MOG); Mr. C. P. Kimball (CPK); Dr. A. B. Klots (ABK); Dr. J. A. Powell (JAP); and Dr. J. F. Gates Clarke, United States National Museum (USNM). Specimens in the Cornell University Collection are denoted by (CU) and those in my collection by (RWH).

Genus PERIPLOCA Braun

(Fig. 1)

Type: (*Periploca purpuriella* Braun, 1919) = *Elachista concolorella* Chambers, 1875. Original designation and monobasic.

Periploca Braun, 1919, Ent. News, 30: 261; Fletcher, 1929, Mem. Dept. Agric. India, Ent. Ser., 11: 168; McDunnough, 1939, Mem. S. California Acad. Sci., 2: 63.

Head: smooth-scaled; tongue scaled, moderate in length; maxillary palpus folded over base of tongue; labial palpus recurved, reaching beyond vertex, second and third segments subequal except for *P. ceanothiella* and *concolorella* in which third segment is one-half length of second, apex of third segment acute; antenna two-thirds to three-fourths length of forewing, simple, pecten composed of one or two cilia, scape broad, flattened. *Forewing*: lanceolate, apex acute; 11 or 12 veins present; lb furcate basally; 2 from before angle of cell, evanescent; 3 from angle of cell; 5, 6, 7, and

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8 stalked; 9 from angle of cell; 10 opposite 2 in female, from three-fourths of cell in male; 11 from two-fifths of cell. *Hindwing*: sublinear, apex acute; a series of scales on costal margin at one-fourth; 7 veins present; 1 absent; 2, 3, and 4 parallel; 6 and 7 stalked. *Male genitalia*: usually symmetrical; vinculum broad, often bifid medially; saccus somewhat developed tegumen narrow; uncus absent; valvae simple or with sacculus produced as a separate lobe; aedeagus long, symmetrical or asymmetrical, armed with spines or unarmed. *Female genitalia*: bursa copulatrix membranous or lightly sclerotized; signa absent or double; ductus bursae membranous or sclerotized posteriorly; ostium bursae on seventh sternum; apophyses anteriores and posteriores subequal in length.

Key to Species Based on External Characters

1. Scales of forewings bronze; margins of scales fuscous or bronze-black 2
Scales of forewings not bronze 4
2. Alar expanse greater than 8 mm. 3
Alar expanse less than 7 mm. *concolorella* (Chambers)
3. Third segment of labial palpus one-half length of second segment *ceanothiella* (Cosens)
Third segment of labial palpus as long as second segment *gleditschiaeella* (Chambers)
4. Antenna unicolorous, blackish *funebria* Hodges
Antenna blackish basally, greasy-buff distally 5
5. Apices of prothoracic tarsal segments pale 8
Prothoracic tarsal segments unicolorous 6
6. Inner surface of second segment of labial palpus gray-brown 7
Inner surface of second segment of labial palpus fuscous-black *nigra* Hodges
7. Outer surface of metathoracic tibia unicolorous *laeta* Hodges
Outer surface of metathoracic tibia pale apically *gulosa* Hodges
8. Outer surface of metathoracic tibia pale buff or fuscous-buff; outer tibial spurs darker 11
Outer surface of metathoracic tibia fuscous; if fuscous-buff, outer tibial spurs paler 9
9. Scape unicolorous 10
Apex of scape pale *mimula* Hodges
10. Outer metathoracic tibial spurs paler than outer surface of metathoracic tibia *fessa* Hodges
Outer metathoracic tibial spurs not paler than outer surface of metathoracic tibia *cata* Hodges
11. Basal three or four segments of shaft fuscous-black, remainder greasy-buff *facula* Hodges
Shaft fuscous-black to one-third, gradually becoming greasy-buff *atrata* Hodges

Key to Species Based on the Male Genitalia

1. Aedeagus concave dorsally *concolorella* (Chambers)
Aedeagus convex dorsally 2
2. Valvae symmetrical 3

Valvae asymmetrical	<i>gulosa</i> Hodges
3. Vinculum smooth-margined posteriorly	4
Vinculum emarginate posteriorly	7
4. Vinculum produced to a point ventrally (Fig. 4)	<i>fessa</i> Hodges
Vinculum not produced to a point ventrally (Fig. 6)	5
5. Valvae triangular (Fig. 6)	<i>ceanothiella</i> (Cosens)
Valvae not triangular (Fig. 11)	6
6. Apex of valva smooth-margined (Fig. 11)	<i>atrata</i> Hodges
Apex of valva bifid (Fig. 9)	<i>gleditschiaella</i> (Chambers)
7. Aedeagus armed (Figs. 8, 10, and 12)	8
Aedeagus unarmed (Fig. 7)	<i>facula</i> Hodges
8. Aedeagus armed dorsally (Fig. 8)	<i>funebri</i> Hodges
Aedeagus armed laterally	9
9. Aedeagus armed on right side	10
Aedeagus armed on left side	11
10. Armature of one long spine preceded by a few short ones (Fig. 13)	<i>laeta</i> Hodges
Armature of several short asymmetrical spines (Fig. 5)	<i>mimula</i> Hodges
11. Armature of a long and a short spine (Fig. 12).....	<i>nigra</i> Hodges
Armature of several very short spines (Fig. 10)	<i>cata</i> Hodges

Partial Key to Species Based on Female Genitalia

1. Ductus bursae sclerotized before ostium bursae	5
Ductus bursae not sclerotized before ostium bursae	2
2. Posterior margin of sixth sternum with two rounded projections (Fig. 14)	<i>concolorella</i> (Chambers)
Posterior margin of sixth sternum even	3
3. Ostium bursae a simple hole on anterior margin of seventh sternum	4
Ostium bursae at middle of seventh sternum	<i>ceanothiella</i> (Cosens)
4. Ovipositor and seventh segment of abdomen two-thirds to three-fourths length of segments one through six of abdomen	<i>atrata</i> Hodges
Ovipositor and seventh segment of abdomen three-halves length of segments one through six of abdomen	<i>gleditschiaella</i> (Chambers)
5. Posterior margin of eighth abdominal segment with numerous setae (Fig. 22)	6
Posterior margin of eighth abdominal segment with few setae (Fig. 15)	7
6. Ductus bursae extending beyond wall of seventh sternum (Fig. 22)	<i>funebri</i> Hodges
Ductus bursae not extending beyond wall of seventh sternum (Fig. 20)	<i>facula</i> Hodges
7. Ostium bursae at middle of seventh sternum	<i>mimula, nigra</i> Hodges
Ostium bursae before anterior fourth of seventh sternum	8
8. Ductus bursae heavily sclerotized on posterior third	<i>laeta</i> Hodges
Ductus bursae heavily sclerotized immediately before ostium bursae	<i>cata</i> Hodges

PERIPLOCA CONCOLORELLA (Chambers), New combination

(Figs. 3, 14, and 23)

Elachista (?) *concolorella* Chambers, 1875, Can. Ent., 7: 55.*Elachista concolorella*, Chambers, 1878, Bull. U.S. Geol. Geogr. Surv. Terr., 4: 139; Dyar, 1902 [1903], Bull. U. S. Natl. Mus., 52: 536; McDunnough, 1939, Mem. S. California Acad. Sci., 2: 92.—*concolorella*, Braun, 1948, Mem. Amer. Ent. Soc., 13:2, refers *concolorella* to Cosmopterygidae without generic assignment.*Periploca purpuriella* Braun, 1919, Ent. News, 30: 261; Fletcher, 1929, Mem. Dept. Agric. India, Ent. Ser., 11: 168; McDunnough, 1939, Mem. S. California Acad. Sci., 2: 63. *New Synonymy*.*Head*: tongue fuscous basally, fuscous-ochreous distally. Maxillary palpus fuscous. Labial palpus dark fuscous, third segment shorter than second. Antennae fuscous. Face, vertex, and occiput bronze with purple reflections. *Thorax*: bronze with purple reflections. Legs buff-white with purple reflections basally, fuscous distally; apices of tibiae and tarsal segments pale. *Forewing*: individual scales bronze medially, fuscous on margins; cilia brown. *Hindwing*: membrane and cilia pale fuscous. *Abdomen*: metallic pale buff with purple reflections ventrally. *Male genitalia*: as in figure 3 (R.W.H. slide no. 1083). *Female genitalia*: as in figure 14 (R.W.H. slide no. 580). *Alar expanse*: 5-6.5 mm.*Food plant*: unknown.*Types*: *concolorella*, Museum of Comparative Zoology; *purpuriella*, Collection of Annette F. Braun.*Type localities*: *concolorella*, Bosque County, Texas; *purpuriella*, Fredalba, California.*Specimens examined*: Arizona: 13 ♂, 5 ♀, Madera Canyon, 4880 feet, Santa Rita Mountains, Santa Cruz Co., July 7 through August 3, 1959 (R. W. Hodges), [CU, RWH]; same locality except for elevation, 5600 feet, August 1, 1959 (R. W. Hodges), [RWH]. California: 2 ♂, 6 ♀, Fredalba, San Bernardino Co.; August 19 through September 2, 1912 (G. R. Pilate), [USNM, RWH]; 2 ♂, 8 ♀, Oroville, Butte Co., March 12, 1928 (H. H. Keifer), [CAS, RWH]. New Mexico: 1 ♂, Mesilla (no date given), (C. N. Ainslie), [USNM]. Texas: 1 ♀, Bosque Co. (no date given), [MCZ].

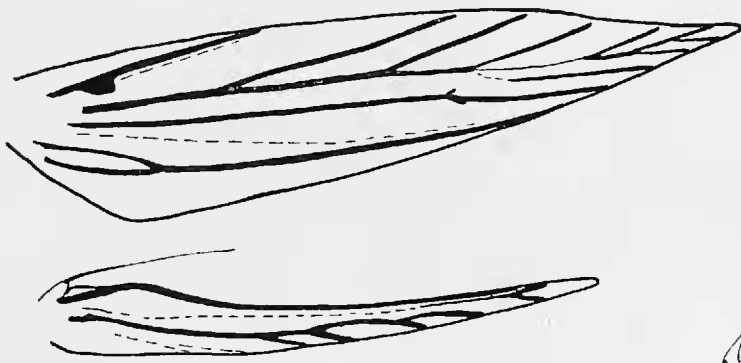
PERIPLOCA CEANOETHIELLA (Cosens), New combination

(Figs. 6 and 16)

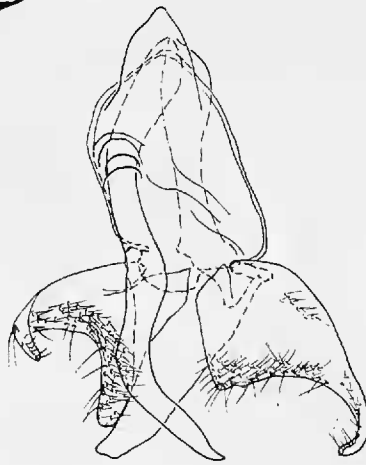
Stigmatophora ceanoethiella Cosens, 1908, Can. Ent., 40: 107; McDunnough, 1939, Mem. S. California Acad. Sci., 2: 64.The maculation of *ceanoethiella* is the same as that of *concolorella* except that the purple reflections are absent or not as intense. *Male genitalia*: as in figure 6 (R.W.H. slide no. 1124). *Female*

EXPLANATION OF FIGURES

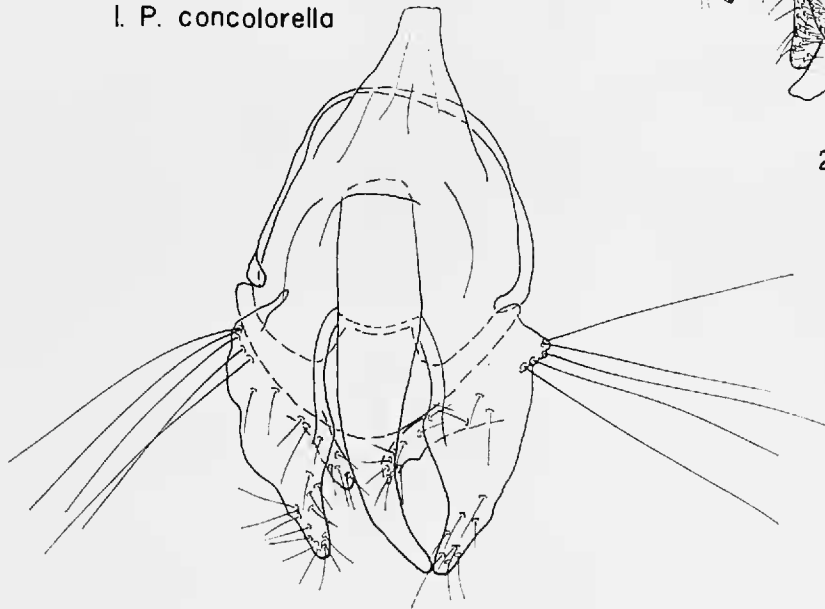
Fig. 1, venation of *Periploca concolorella* (Chambers); figs. 2-6, male genitalia of *Periploca*; 2, *P. gulosa* Hodges; 3, *P. concolorella* (Chambers); 4, *P. fessa* Hodges; 5, *P. mimula* Hodges; 6, *P. ceanoethiella* (Cosens).



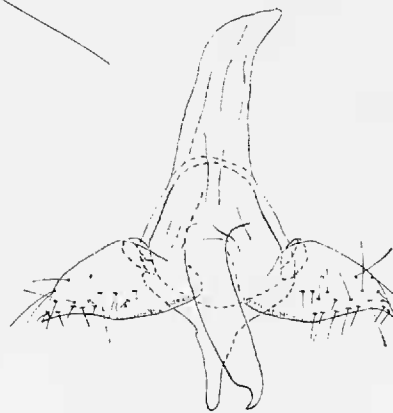
1. *P. concolorella*



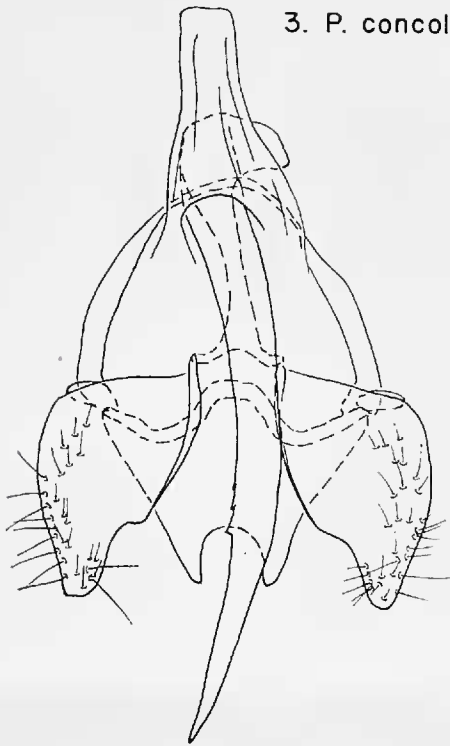
2. *P. gulosa*



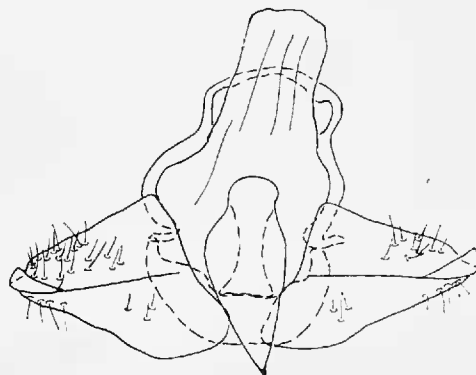
3. *P. concolorella*



4. *P. fessa*



5. *P. mimula*



6. *P. ceanothiella*

genitalia: as in figure 16 (R.W.H. slide no. 1149). *Alar expanse*: 9-12 mm.

Food plant: *Ceanothus* spp. A gall former in the branches and twigs.

Type: location unknown.

Type locality: Toronto, Ontario, Canada.

Specimens examined: California: 1 ♂, ex *Ceanothus* gall, Burbank, Los Angeles Co., emerged January 11, 1960 (R. W. Hodges), [RWH]; 1 ♀, Grass Lake, El Dorado Co., June 29, 1957 (J. Powell), [RWH]; 4 ♂, 1 ♀, on *Ceanothus*, Los Angeles, May 1929 (L. E. Myers) [USNM]; 1 ♂, Mt. Lowe, Los Angeles Co., June 6, 1924 [LACM]; 3 ♀, reared from *Ceanothus thrysiflorus*, Glendale, Los Angeles Co., collected March 13, 1934, emerged May 16, 1934 (Tower), [USNM]. Kansas: 1 ♂, reared from *Ceanothus* gall, Manhattan, collected April 22, 1928, emerged May 27, 1938 (R. H. Painter), [ABK]. New York, 1 ♀, Ithaca, June 6, 1939 (A. B. Klots), [ABK]; 1 ♂, Rochester, June 22, 1932 (A. B. Klots), [ABK]. Texas: 2 ♂, 1 ♀, Dallas, collected April 7, 1909, emerged April 12 through 19, 1909 (E. S. Tucker), [USNM]. Ontario, Canada: 1 ♂, 4 ♀, gall maker on *Ceanothus*, Toronto, collected 17.06, emerged June 23 through 26, 1907 [USNM]; 6 ♂, 5 ♀, same locality, emerged May 27 through 30 (no year or host given), [USNM, AFB].

PERIPLOCA GLEDITSCHIAEELLA (Chambers), New combination
(Figs. 9 and 21)

Laverna (?) (*Anybia*?) *gleditschiaeella* Chambers, 1876, Can. Ent., 8: 135.

Laverna gleditschiaeella, Walsingham, 1909, Biologia Centrali-Americana. Insecta. Lepidoptera-Heterocera, 4: 17.

Mompha gleditschiaeella, Dyar, "1902" [1903], Bull. U. S. Natl. Mus., 52: 542.

Stigmatophora gleditschiaeella, Barnes and McDunnough, 1917, Check List of the Lepidoptera of Boreal America, 153; McDunnough, 1939, Mem. S. California Acad. Sci., 2: 64.

The maculation of *gleditschiaeella* is the same as that of *ceanothiella*. *Male genitalia*: as in figure 9 (R.W.H. slide no. 1147). *Female genitalia*: as in figure 21 (R.W.H. slide no. 1148). *Alar expanse*: 8-13 mm.

Food plant: *Gleditsia* sp. and *Robinia* sp. A borer in the thorns.

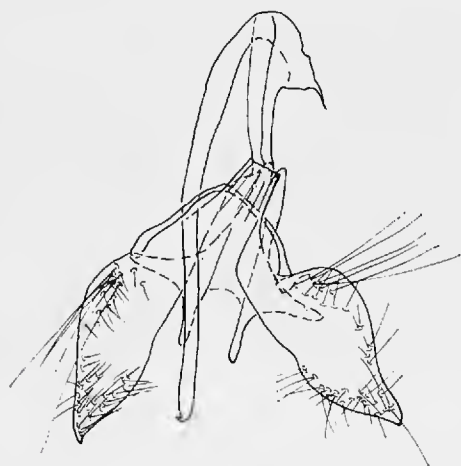
Type: *Lectotype*; present designation, male, left wings absent, bearing the following labels: 1) type, 1373. 2) Kentucky, Chambers. 3) *Laverna* (*Anybia*) *Gleditschiaeella* Cham. In Museum of Comparative Zoology.

Type locality: Kentucky.

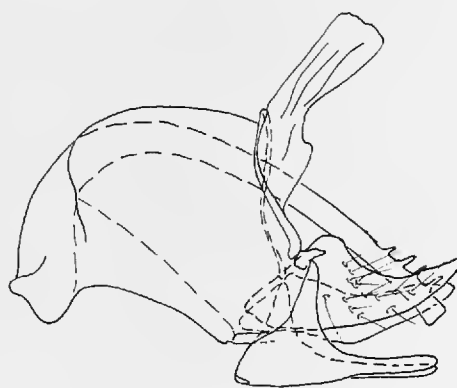
Specimens examined: Kentucky: 15 ♂, 6 ♀, reared from thorns of

EXPLANATION OF FIGURES

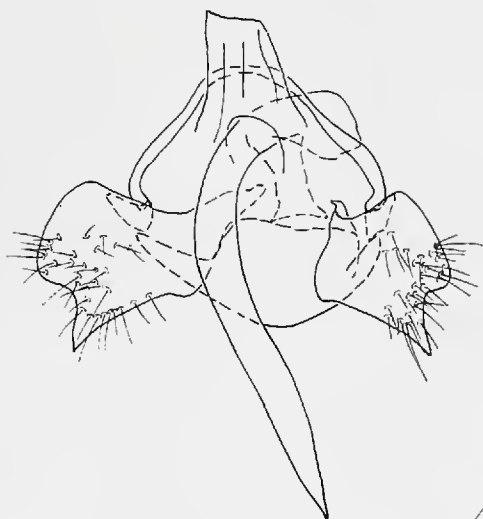
Figs. 7-13, male genitalia of *Periploca*; 7, *P. facula* Hodges; 8, *P. funebris* (lateral view); 9, *P. gleditschiaeella* (Chambers); 10, *P. cata* Hodges; 11, *P. atrata* Hodges; 12, *P. nigra* Hodges; 13, *P. laeta* Hodges.



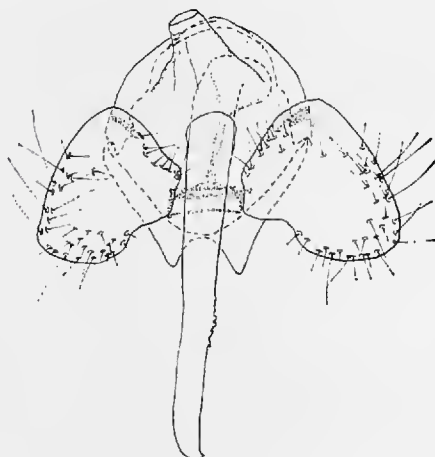
7. *P. facula*



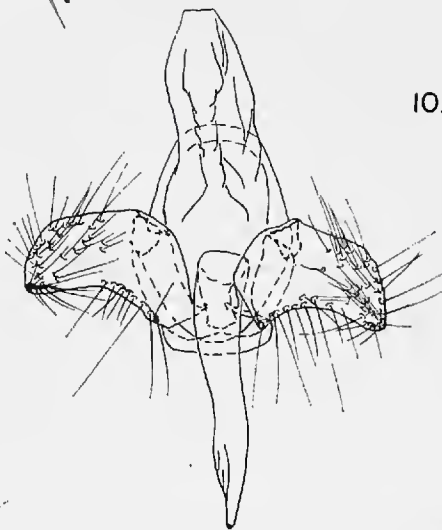
8. *P. funebris*



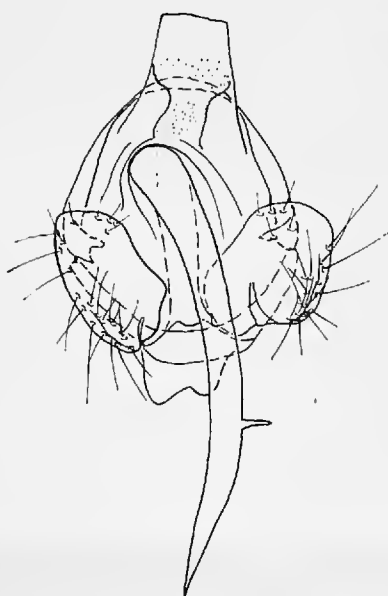
9. *P. gleditschiaeella*



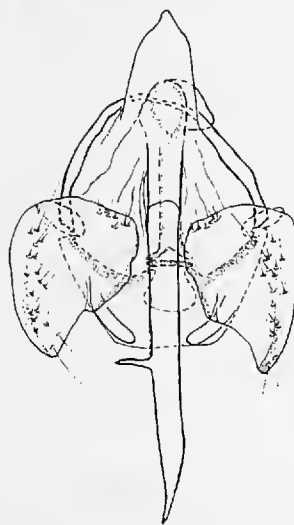
10. *P. cata*



11. *P. atrata*



12. *P. nigra*



13. *P. laeta*

Robinia, (no further locality given), emerged February 1903 (A. Busck), [USNM]. 1 ♀, (no further locality given), (Chambers), [USNM]. Maryland: 3 ♂, reared from honey locust, Williamsport, June 14, 1917 (P. R. Myers), [USNM]; 4 ♂, 4 ♀, same locality, reared from honey locust, collected May 11, 1916, emerged May 22 through 26, 1916 (W. R. McConnell), [USNM]. Ohio: 5 ♂, 14 ♀, Cincinnati, dates from May 20 through June 13 (Annette F. Braun), [AFB, USNM, RWH].

Periploca atrata Hodges, new species

(Figs. 11 and 19)

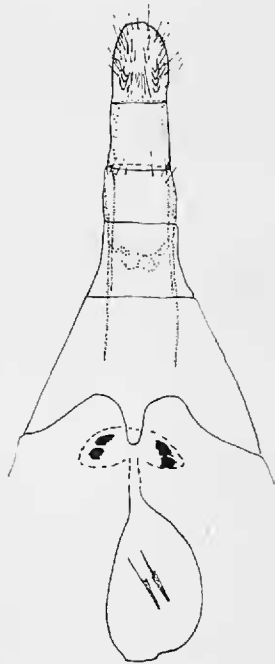
Head: tongue fuscous-black basally, greasy-buff distally. Maxillary palpus fuscous-black. Labial palpus fuscous-black. Antenna with scape and first two or three segments of shaft fuscous-black, gradually becoming greasy-buff distally. Face shining fuscous, vertex and occiput fuscous-black. *Thorax*: fuscous-black. Prothoracic leg fuscous-black, apex of tibia pale; mesothoracic leg with coxa greasy-buff, remainder fuscous-black, apices of tibia and tarsal segments pale. *Forewing*: fuscous-black; cilia fuscous-black apically, becoming buff dorsally. *Hindwing*: fuscous, cilia pale fuscous. *Abdomen*: male, fuscous, apices of segments pale; female, first five segments greasy-buff dorsally, dark fuscous on other surfaces, apices of segments pale. *Male genitalia*: as in figure 11 (R. W. H. slide no. 1092). *Female genitalia*: as in figure 19 (R. W. H. slide no. 565). *Alar expanse*: 8-14 mm.

FOOD PLANT: *Juniperus* spp. Reared from the fruits.

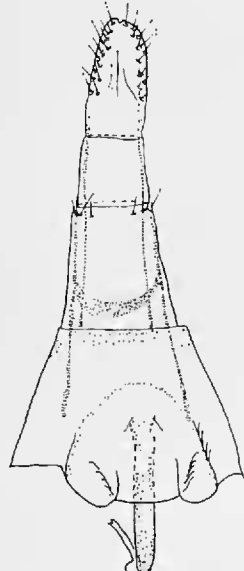
Holotype male, MADERA CANYON, 4880 FEET, SANTA RITA MOUNTAINS, SANTA CRUZ COUNTY, ARIZONA, July 9, 1959 (R. W. Hodges), (R.W.H. slide no. 562), [Cornell University Type No. 3817]. Paratypes: 20 ♂, 26 ♀, same locality as holotype, dates from July 7 through August 4, 1959 (R.W.H. slide nos. 565, 1068, 1070, 1071, 1084-1100, 1103-1110, 1112, 1113, 1115-1119, 1121-1123, 1139-1142). [CU, USNM, RWH, British Museum (Natural History)]; 1 ♂, 4 ♀, same locality as holotype except for elevation, 5600 feet, July 30 and August 1, 1959 (R.W.H. slide nos. 563, 1111, 1114), [CU, RWH]; 1 ♀, reared from fruits of *Juniperus pachyphloea*, Chiricahua Mountains, Arizona, emerged April 20, 1927 (Carl Heinrich), (R.W.H. slide no. 10003), [USNM]; 2 ♂, 5 ♀, Russelmann Park, Mt. Diablo, Contra Costa County, California, reared from juniper berries, collected January 4, 1958 (H. Ruckes, Jr.), emerged February 10 and 15, 1959 (reared by J. Powell) (R.W.H. slide nos. 1078, 1079), [JAP, RWH]; 5 ♂, 5 ♀, Mt. Diablo, April 5, 1937 (E. C. Van Dyke), [CAS].

EXPLANATION OF FIGURES

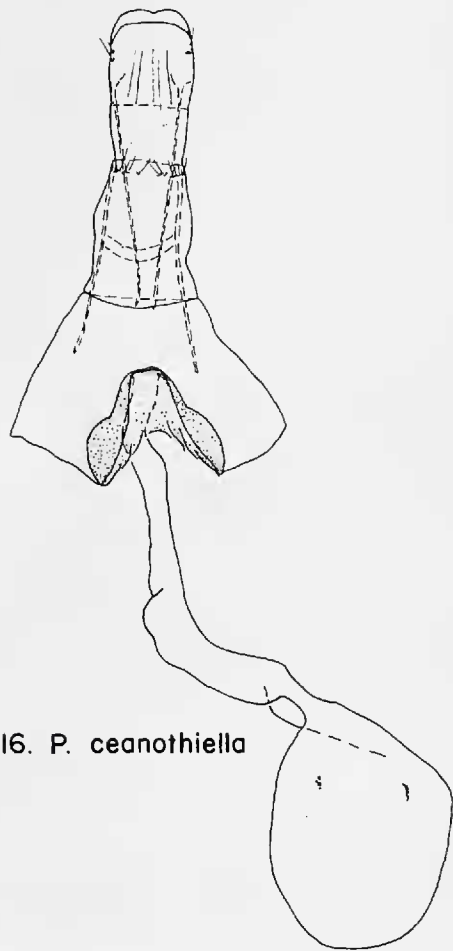
Figs. 14-19, female genitalia of *Periploca*; 14, *P. concolorella* (Chambers); 15, *P. mimula* Hodges; 16, *P. ceanothiella* (Cosens); 17, *P. cata* Hodges; 18, *P. laeta* Hodges; 19, *P. atrata* Hodges.



14. *P. concolorella*



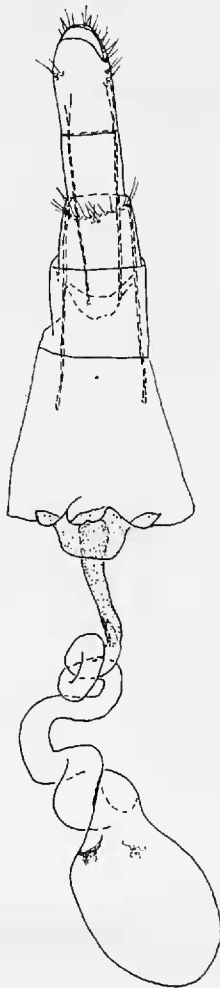
15. *P. mimula*



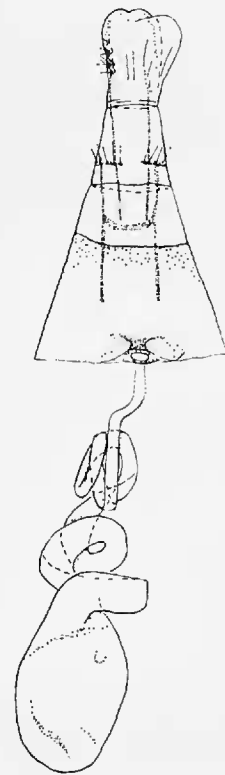
16. *P. ceanothiella*



17. *P. cata*



18. *P. laeta*



19. *P. atrata*

***Periploca mimula* Hodges, new species**

(Figs. 5 and 15)

Head: tongue buff. Maxillary palpus buff. Labial palpus fuscous-black, inner surface of second segment fuscous-buff basally. Antenna fuscous-black to one-third, becoming buff distally, apex of scape fuscous-buff. Face and vertex shining buff, occiput fuscous-black. *Thorax*: brown-black. Prothoracic and mesothoracic legs fuscous-black, apices of tibiae and tarsal segments whitish; metathoracic leg fuscous-brown, outer tibial spurs concolorous or slightly paler than tibia, apices of tibia and tarsal segments buff. *Forewing*: fuscous-black, cilia concolorous with wing apically, becoming fuscous-buff dorsally. *Hindwing*: fuscous, cilia pale fuscous. *Male genitalia*: as in figure 5 (R.W.H. slide no. 1125). *Female genitalia*: as in figure 15 (R.W.H. slide no. 615). *Alar expanse*: 7-10 mm.

FOOD PLANT: unknown.

Holotype male, MADERA CANYON, 4880 FEET, SANTA RITA MOUNTAINS, SANTA CRUZ COUNTY, ARIZONA, August 4, 1959 (R. W. Hodges), (R.W.H. slide no. 1074), [Cornell University Type No. 3828]. Paratypes: 9 ♂, 5 ♀, same locality as holotype, with date range from July 8 through October 11, 1959 (R.W.H. slide nos. 1073, 1075, 1125, 1126, 1128-1130, 1134, 1137, 1138, 1143-1145), [CU, USNM, RWH]; 2 ♀, Peña Blanca Canyon, Santa Cruz County, Arizona, August 7 and September 1, 1959 (R. W. Hodges), (R.W.H. slide nos. 615, 1146), [CU, RWH].

***Periploca laeta* Hodges, new species**

(Figs. 13 and 18)

Head: tongue pale fuscous basally, greasy-buff distally. Maxillary palpus fuscous. Labial palpus fuscous-black. Antenna with scape and first four or five segments of shaft fuscous-black, becoming greasy-buff distally. Face, vertex, and occiput shining fuscous-buff; a fascicle of fuscous-brown scales above each eye. *Thorax*: fuscous-black. Legs dark fuscous to fuscous-black, prothoracic tibia and tarsus concolorous; apices of mesothoracic and metathoracic tibiae and tarsal segments pale. *Forewing*: fuscous-black; cilia concolorous with wing apically, fuscous dorsally. *Hindwing*: fuscous, cilia pale fuscous. *Abdomen*: dark fuscous, apices of segments pale fuscous. *Male genitalia*: as in figure 13 (R.W.H. slide no. 614). *Female genitalia*: as in figure 18 (R.W.H. slide no. 1082). *Alar expanse*: 8-11 mm.

FOOD PLANT: *Juniperus* spp. feeding beneath bark of stems.

Holotype male, MONTICELLO, FLORIDA, *ex* juniper, February 15, 1961 (R. H. Miller), (R.W.H. slide no. 1081), [Cornell University Type No. 3820]. Paratypes: 3 ♂, 2 ♀, same locality as holotype, emerged February 15, 18, and 24, 1961 (R.W.H. slide no. 1082), [CPK, RWH]; 1 ♂, Madera Canyon, 4880 feet, Santa Rita Mountains, Santa Cruz County, Arizona, July 22, 1959 (R. W. Hodges), (R.W.H. slide no. 614), [RWH]; 1 ♂, Plummer's

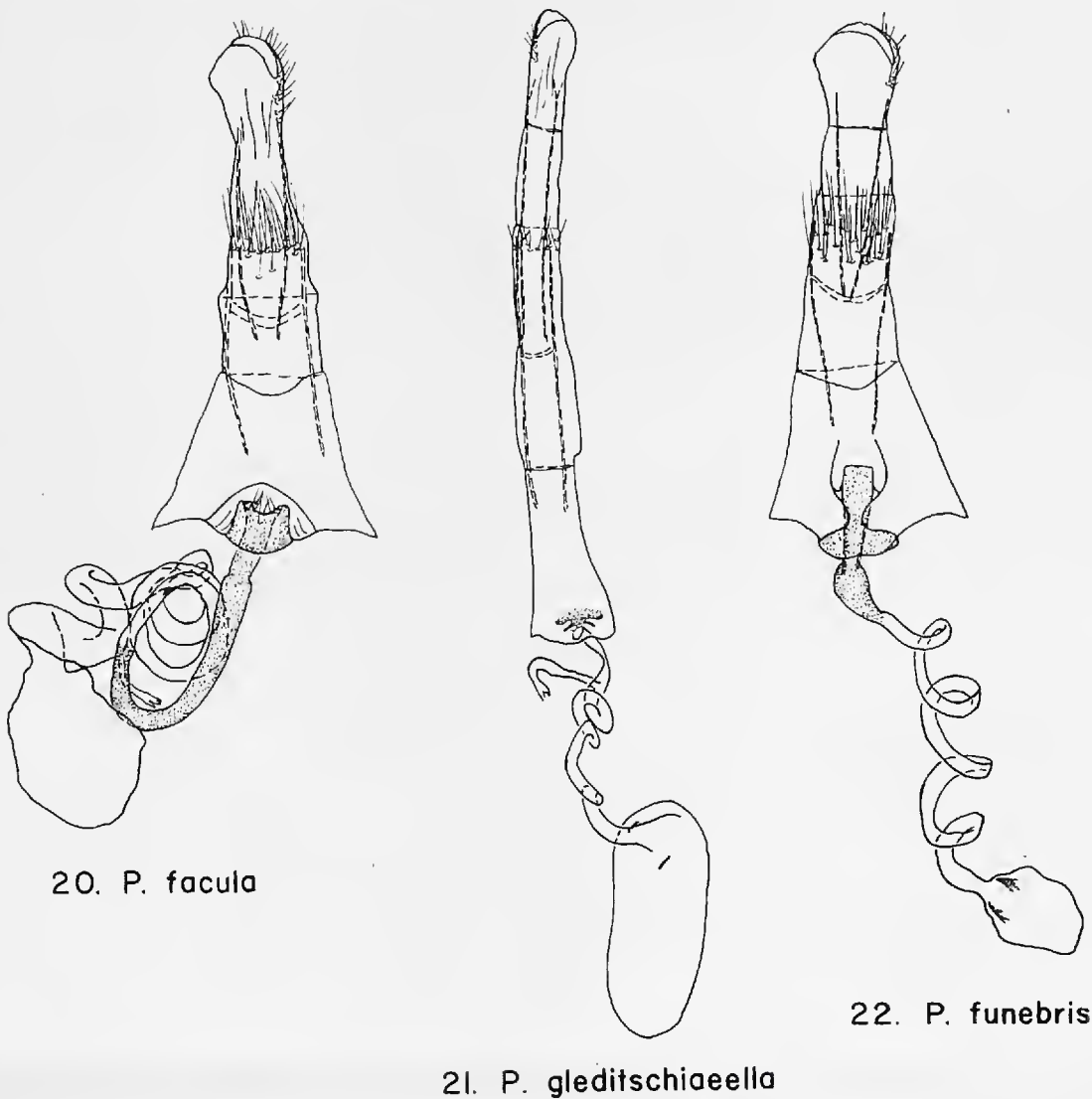
Island, Maryland, June 1903 (Aug. Busck), (R.W.H. slide no. 10004), [USNM].

Periploca cata Hodges, new species

(Figs. 10, 17, and 24)

Head: tongue fuscous basally, greasy-buff distally. Maxillary palpus fuscous. Labial palpus fuscous-black. Antenna fuscous-black on first four segments of shaft, becoming greasy-buff distally. Face, vertex, and occiput shining gray-buff; a fascicle of fuscous-black scales above each eye. *Thorax*: fuscous-black. Prothoracic and mesothoracic legs dark fuscous, apices of mesothoracic tibia and tarsal segments pale fuscous; metathoracic legs fuscous, outer tibial spurs concolorous with outer surface of tibia. *Forewing*: fuscous-black, cilia fuscous. *Hindwing*: wing and cilia fuscous. *Abdomen*: fuscous-buff, apices of segments paler. *Male genitalia*: as in figure 10 (R.W.H. slide no. 574). *Female genitalia*: as in figure 17 (R.W.H. slide no. 575). *Alar expanse*: 8-10 mm.

FOOD PLANT: reared from "cedar apples" of *Gymnosporangium* sp. It is



20. *P. facula*

22. *P. funebris*

21. *P. gleditschiaeella*

EXPLANATION OF FIGURES

Figs. 20-22, female genitalia of *Periploca*; 20, *P. facula* Hodges; 21, *P. gleditschiaeella* (Chambers); 22, *P. funebris* Hodges.

not known whether the larva feeds on the tissues of the host, *Juniperus*, or of the parasite.

Holotype male, PUTNAM COUNTY, ILLINOIS, reared from "cedar apple" emerged May 30, 1960 (collected by M. O. Glenn, reared by R. W. Hodges), (R.W.H. slide no. 1154), [Cornell University Type No. 3824]. Paratypes: 13 ♂, 24 ♀, same data as holotype, date range from May 9 through June 3, 1960 (R.W.H. slide nos. 574, 575, 1153, 1155), [CU, RWH]; 16 ♂, 9 ♀, same locality as holotype, date range from January 25 through June 30 (collected and reared by M. O. Glenn), [MOG, USNM, CU].

***Periploca nigra* Hodges, new species**

(Fig. 12)

Head: tongue pale fuscous basally, buff distally. Maxillary palpus fuscous. Labial palpus fuscous-black. Antenna fuscous-black on scape and first four or five segments, becoming buff-white distally. Face shining fuscous, vertex and occiput fuscous-black. *Thorax*: fuscous-black. Prothoracic and mesothoracic legs fuscous-black, apices of mesothoracic tibia and tarsal segments paler; metathoracic leg fuscous. *Forewing*: fuscous-black; cilia concolorous with wing apically, becoming buff overlaid with fuscous dorsally. *Hindwing*: fuscous, cilia buff dorsally. *Abdomen*: male, pale fuscous dorsally, fuscous ventrally; female, buff on first five terga, fuscous on sterna and last terga. *Male genitalia*: as in figure 12 (R.W.H. slide no. 10011). *Female genitalia*: the same as for *mimula*. *Alar expanse*: 9-11 mm.

FOOD PLANT: *Juniperus* spp. A twig girdler, feeding on the cambium.

Holotype male, SACRAMENTO, SACRAMENTO COUNTY, CALIFORNIA, *ex Juniperus* sp. February 14, 1961 (A. Forbes), (R.W.H. slide no. 1080), [Collection of California Department of Agriculture, Sacramento]. Paratypes: 3 ♂, 4 ♀, same data as holotype, emerged January 30 and February 14, 1961 (R.W.H. slide nos. 1065, 1066, 10009), [CDA, RWH]; 2 ♀, same locality as holotype: *ex Juniperus virginiana kosleri*, collected February 28, 1961, emerged March 28, 1961 (G. T. Okumura), [CDA, RWH]; 7 ♂, 11 ♀, Stockton, San Joaquin County, California, *ex Juniperus chinensis pfitzeriana*, collected February 23, 1961, emerged March 23, and 25, 1961 (P. S. Jorgensen), (R.W.H. slide nos. 10010-10012), [CDA, CAS, CU, USNM, RWH]; 7 ♂, 5 ♀, Plummer's Island, Maryland, June through August 1901-1903 (August Busck), (A. Busck slides and R.W.H. slide nos. 10033-10035), [USNM]; 1 ♂, Bedford, New York, July 15, 1934 (R.W.H. slide no. 10032), [ABK].

The specimens from Plummer's Island are labeled with what appears to be a Busck manuscript name.

***Periploca fessa* Hodges, new species**

(Fig. 4)

Head: tongue greasy-buff. Maxillary palpus pale fuscous. Labial palpus fuscous-black, inner surface of second segment fuscous. Antenna fuscous-black on scape and first three segments of shaft, becoming greasy-buff distally. Face dark buff, vertex and occiput blackish, a fascicle of buff scales above each eye. *Thorax*: fuscous-black. Prothoracic and mesothoracic legs fuscous-black, apices of tibiae and tarsal segments buff-white; metathoracic leg fuscous-buff, outer tibial spurs paler than tibia. *Forewing*: fuscous-black, cilia buff. *Hindwings* pale fuscous, cilia buff. *Male genitalia*: as in figure no. 4 (R.W.H. slide no. 658). *Female genitalia*: no specimens available. *Alar expanse*: 7.7½ mm.

FOOD PLANT: unknown.

Holotype male, SIESTA KEY, SARASOTA COUNTY, FLORIDA, April 6, 1957 (C. P. Kimball), (R.W.H. slide no. 658), [Cornell University Type No. 3822]. *Paratype*: 1 ♂, Plummer's Island, Maryland, May 1903 (Aug. Busck), (R.W.H. slide no. 10036), [USNM].

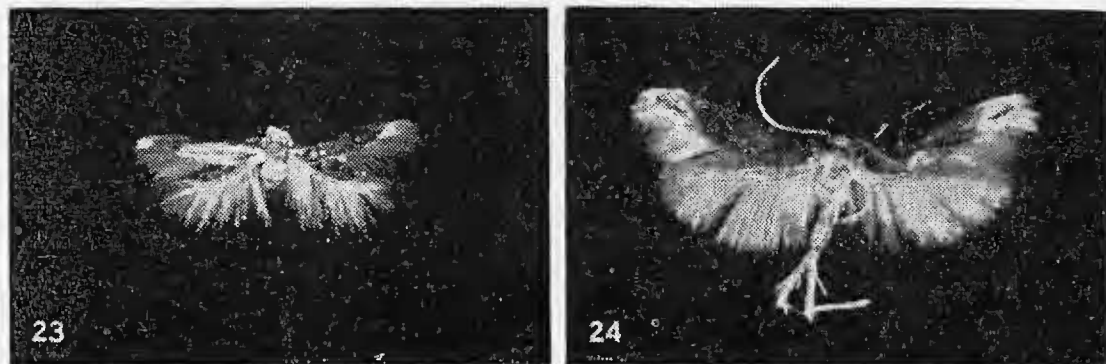
***Periploca gulosa* Hodges, new species**

(Fig. 2)

Head: tongue fuscous-buff basally, greasy-buff distally. Maxillary palpus fuscous. Labial palpus fuscous-black, inner surface of second segment fuscous-buff. Antenna fuscous-black basally, becoming greasy-buff distally; apex of scape pale fuscous. Face and vertex shining fuscous-buff, occiput and a fascicle of scales above each eye fuscous-black. *Thorax*: brown-black. Legs fuscous; mesothoracic and metathoracic coxae greasy-buff, apices of tibiae and tarsal segments pale, prothoracic tarsal segments unicolorous. *Forewing*: brown-black; cilia concolorous with wing at apex, paler dorsally. *Hindwing*: fuscous, cilia pale fuscous. *Male genitalia*: as in figure 2 (R.W.H. slide no. 1077). *Female genitalia*: no specimens available. *Alar expanse*: 9-10 mm.

FOOD PLANT: unknown.

Holotype male, MADERA CANYON, 4880 FEET, SANTA RITA MOUN-



EXPLANATION OF FIGURES

Fig. 23, *Periploca concolorella* (Chambers), Madera Canyon, Santa Rita Mountains, Santa Cruz County, Arizona; fig. 24, *Periploca cata* Hodges, Putnam County, Illinois.

TAINS, SANTA CRUZ COUNTY, ARIZONA, July 17, 1959 (R. W. Hodges), (R.W.H. slide no. 1136), [Cornell University Type No. 3819]. Paratypes: 1 ♂, same locality as holotype, August 20, 1959 (R.W.H. slide no. 1077), [RWH]; 1 ♂, Ramsay Canyon, Huachuca Mountains, Arizona, July 10-15, 1941 (A. B. Klots), [ABK].

***Periploca facula* Hodges, new species**

(Figs. 7 and 20)

Head: tongue buff-white. Maxillary palpus fuscous. Labial palpus fuscous-black, inner surface of second segment fuscous-buff. Antenna mottled fuscous on scape and base of shaft, outer three-fourths of shaft buff to buff-white, apex of scape buff. Face, vertex, and occiput buff-white; a fascicle of fuscous-black scales above each eye. *Thorax*: burnished brown-black. Prothoracic and mesothoracic legs mottled fuscous, apices of tibiae and tarsal segments buff; metathoracic tibia buff, outer tibial spurs fuscous, tarsus fuscous. *Forewing*: buff overlaid with burnished fuscous-black scales, cilia fuscous. *Hindwing*: pale fuscous, cilia paler than wing. *Male genitalia*: as in figure 7 (R.W.H. slide no. 1127). *Female genitalia*: as in figure 20 (R.W.H. slide no. 10005). *Alar expanse*: 9-10 mm.

FOOD PLANT: *Juniperus* spp.

Holotype male, MADERA CANYON, 4400 FEET, SANTA RITA MOUNTAINS, PIMA COUNTY, ARIZONA, October 6, 1959 (R. W. Hodges), (R.W.H. slide no. 1076), [Cornell University Type No. 3821]. Paratypes: 2 ♂, same locality as holotype, October 10, 1959 (R.W.H. slide nos. 1127, 1133), [RWH]; 1 ♀, Eureka, Humboldt County, California, 6-6 (H. S. Barber), (R.W.H. slide no. 10005), [USNM]; 2 ♂, Jacumba, San Diego County, California, *ex Juniperus californica*, emerged December 7, 1915 (F. P. Keen), (A.B. [usck] slide, 14 Jan., 1935), [USNM].

***Periploca funebris* Hodges, new species**

(Figs. 8 and 22)

Head: tongue shining fuscous basally, greasy-buff distally. Maxillary palpus fuscous. Labial palpus fuscous-black, inner surface of second segment fuscous. Antenna fuscous-black basally, becoming fuscous distally. Face shining fuscous, vertex and occiput fuscous-black. *Thorax*: fuscous-black. Legs fuscous, prothoracic pair darkest; apices of tibiae and tarsal segments pale. *Forewing*: fuscous-black, cilia fuscous-black apically, becoming fuscous-buff dorsally. *Hindwing*: pale fuscous, cilia buff. *Male genitalia*: as in figure 8 (R.W.H. slide no. 1069). *Female genitalia*: as in figure 22 (R.W.H. slide no. 1131). *Alar expanse*: 7-8½ mm.

FOOD PLANT: *juniperus* spp.

Holotype male, MADERA CANYON, 4880 FEET, SANTA RITA MOUNTAINS, SANTA CRUZ COUNTY, ARIZONA, October 12, 1959 (R. W. Hodges), (R.W.H. slide no. 1072), [Cornell University Type No.

3818]. Paratypes: 2 ♂, 1 ♀, same locality as holotype, July 9 and August 23, 1959 (R.W.H. slide nos. 1131, 1132, 1135, [CU, RWH]; 1 ♀, same locality as holotype except for elevation, 5600 feet, (R.W.H. slide no. 1101), [RWH]; 1 ♂, same locality as holotype except for elevation, 4400 feet, Pima County (R.W.H. slide no. 1069), [CU]; 1 ♂, Garden of the Gods, El Paso County, Colorado, *ex Juniperous (sic) monosperma*, July 27, 1915 (J. H. Pollack), (A. B.[usck] slide, June 14, 1935), [USNM].

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NEW DISTRIBUTION AND HOST RECORD OF
BAREOGONALOS CANADENSIS (HARRINGTON)

(Hymenoptera: Trigonalidae and Vespidae)

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Townes (1956) listed four genera of trigonalid wasps known from the Nearctic Region, each represented by a single species: *Orthogonalys pulchelli* (Cresson), *Poecilogonalos costalis* (Cresson), *Lycogaster pullata* Shuckard, and *Bareogonalos canadensis* (Harrington). The first two species have been recorded only east of Indiana. *Lycogaster pullata* is polytypic with the typical subspecies known from the Atlantic Coast west to the 100th meridian and the second subspecies, *L. p. nevadensis* (Cresson), known from Nevada, New Mexico, Colorado, and North Dakota. *Bareogonalos canadensis* has been recorded only from British Columbia.

A single female *Bareogonalos canadensis* (identified by G. I. S.) was obtained from a *Vespula* nest collected at Cazadero, Sonoma County, California, by Mr. James DeWeese on June 24, 1961. The nest, containing *Vespula (Dolichovespula) arenaria* (Fabricius) in all stages of development, was given to one of us (C. N. S.) who placed it in a closed terrarium to trap all that might emerge. On July 12, 1961, the trigonalid was found. The specimen has been deposited at the California Academy of Sciences.

Published records of *B. canadensis* are: 1 ♀, Victoria, B. C., September, 1893 (Harrington, 1896); 1 ♂, 1 ♀, British Columbia, October 21 and 25, 1897 (Townes); 23 ♂ ♂, 4 ♀ ♀, Gabriola